

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number
WO 2005/075537 A1

(51) International Patent Classification⁷: C08G 63/00,
63/66

Orgánica, Facultad de Ciencias Químicas, Universidad de Concepción, Casilla 160-C, Concepción (CL). **GILISSEN, Dionisius, Maria, Joseph, Guillaume** [NL/NL]; Burgemeester Wijnandsstraat 49, NL-6245 PT Eijsden (NL).

(21) International Application Number:
PCT/NL2005/000077

(74) Agents: **VAN DER PLOEG, Antonius, Franciscus, Maria, Josephus** et al.; Dsm Intellectual Property, P.O. Box 9, NL-6160 MA Geleen (NL).

(22) International Filing Date: 3 February 2005 (03.02.2005)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,

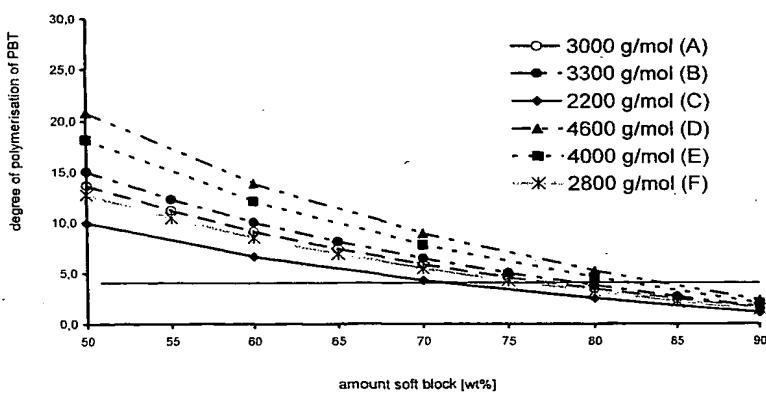
(26) Publication Language: English
(30) Priority Data:
04075383.2 5 February 2004 (05.02.2004) EP

[Continued on next page]

(71) Applicant (for all designated States except US): **DSM IP ASSETS B.V.** [NL/NL]; Het Overloon 1, NL-6411 TE Heerlen (NL).

(72) Inventors; and
(75) Inventors/Applicants (for US only): **GÖTZ, Heide, Anna** [DE/DE]; Burgermeister-Wild-Strasse 36, D-85521 Ottobrunn (DE). **SCHMIDT, Angelika** [DE/NL]; Holsterbeek 26, NL-6166 JR Geleen (NL). **DAHROUCH, Mohamed, Redoine** [FR/CL]; Departamento de Química

(54) Title: BLOCK COPOLYETHERESTER ELASTOMER AND PREPARATION THEREOF



WO 2005/075537 A1

(57) Abstract: The invention relates to a process for the preparation of a block copolyetherester elastomer comprising polyester hard blocks and poly(alkylene oxide) polyol soft blocks, wherein at least one aromatic dicarboxylic acid or an ester-forming derivative thereof, and at least one alkylene diol, are esterified with a poly(alkylene oxide) polyol, comprising an poly(propylene oxide), end capped with ethylene oxide, are esterified, an ethylene oxide content of between 22 and 90% by weight, relative to the total weight of the poly(alkylene oxide) polyol, and an unsaturation content, being the total content of vinyl and allyl groups, of less than 35 meq per kg poly(alkylene oxide) polyol. The invention also relates to a block copolyetherester elastomer obtainable by said process, comprising an poly(propylene oxide) end capped with ethylene oxide, an Mn of between 2500 and 5000 g/mol; and an ethylene oxide content of between 22 and 90 % by weight; and wherein the block copolyetherester elastomer has a ratio by weight of poly(alkylene oxide) polyol/ aromatic dicarboxylic acid or the ester-forming derivative thereof of between 60/40 and 90/10; an average degree of polymerization of the polyester block of at least 3.5; and the block copolyetherester elastomer has an Mn of at least 25,000 g/mol.



FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*